

## **REMARKS**

In the Office Action dated May 29, 2007, the Examiner acknowledged the Examiner objected to claim 28, rejected claims 1-3, 6-10, 12-15, 21, 22, 24-32, 35, 37 and 38 under 35 USC 102 as anticipated by Meadow in US Patent 4,916,308, rejected claims 1-3, 6-19, 21, 22, 24-32 and 35-38 under 35 USC 102 as anticipated by Graham in US Patent 5,914,709, rejected claims 1-3, 6-9, 12-22, 24, 28-32, 37 and 38 under 35 USC 102 as anticipated by Francis in US Patent 6,181,842, rejected claims 4,5, 33 and 34 under 35 USC 103 as obvious over Meadows, rejected claims 11, 16-19, and 36 under 35 USC 103 as obvious over Meadows and Graham, rejected claim 20 under 35 USC 103 as obvious over Meadows and Francis, rejected claim 23 under 35 USC 103 as obvious over Meadows and Hoshino in US Publication 2002/0030668, rejected claims 4, 5, 33 and 34 under 35 USC 103 as obvious over Graham, rejected claim 20 under 35 USC 103 as obvious over Graham and Francis, rejected claim 23 under 35 USC 103 as obvious over Graham and Hoshino, rejected claims 4, 5, 33 and 34 under 35 USC 103 as obvious over Francis, and rejected claim 23 under 35 USC 103 as obvious over Francis and Hoshino. In response thereto, the Applicant has amended claim 28. Claims 1-38 remain at issue.

### **The Objection to the Claims**

The Applicant has amended claim 28 to correct the objection noted by the Examiner. The Applicant requests that this objection now be withdrawn.

### **The Art Rejection**

In the *Response to Arguments*, the Examiner questioned the thickness of the lamina of light of the claimed invention. The Applicant acknowledge that the web site definition does not provide a thickness dimension for a lamina. The Applicant respectfully submits, however, that determining or ascertaining the thickness of the lamina is not at all relevant to the present invention. The web definition submitted and made of record for the purpose of emphasizing the difference between a grid of light versus a continuous sheet or "lamina" of light, as taught and claimed in the present application.

In the *Response to Argument* portion of the final Office Action, the Examiner also reasoned that rejecting the claims as each anticipated by Meadows, Graham and Francis, which all teach use of a **grid** of light, was proper because the written description of the present

application regarding the generation of light is essentially the same as these prior art references. The Applicants respectfully disagree for a number of reasons, including:

(i) Figure 1 of the present application clearly labels element 12 as a “LAMINA” of light;

(ii) paragraph [0013] further describes element 12 as “*a **continuous plane or lamina** 12 of light generated in the free space adjacent to or just above a display screen 14. The lamina 12 is generated by an X axis input light source 16 and a Y axis input light source 18 ...*” (emphasis in bold); and

(iii) paragraph [0017] of the present application incorporates by reference a co-pending application by the same inventor as the present application, now U.S. Patent No. 7,099,553. See Amendment A filed December 6, 2006, which amended the specification to properly identify the issued 7,099,553 patent. In the 7,099,553 patent, the Applicant describes how an L-shaped member, with internal facets, is used to generate a lamina of light from a light source. See for example, member 10 which generates a lamina 50 from a light source 40 in Figure 4 and as described in column 3 line 48-column 4 line 7. Specifically, column 4 lines 5-8 of the 7,099,553 patent states “*The reflected light creates, in effect, **a lamina 50 of light** in the free space between the sides 10a and 10b of member 10.*” (emphasis added in bold)

Based on (i), (ii) and (iii) above, it is clear that the present invention teaches a lamina of light, *as opposed to as grid of light*. The Applicant therefore submits that the Examiner’s rejection is improper, is based on an incorrect interpretation of the teaching of the present application, and should be withdrawn.

In the previous Amendment C, the Applicant carefully explained that each of the cited references, including Meadows, Graham and Francis, each taught an input device that used a *grid* of light, as opposed to the lamina of light claimed in the present application. This analysis is copied and pasted below for the convenience of the Examiner.

The Meadows reference teaches, as illustrated in Figure 1, an input device that relies on a an X-Y grid of light. A Y-emitting LED 52 is arranged to emit a continuous *beam* of light along a first column of pixels 54. See column 4, lines 15-19. An X-emitting LED 58 produces another continuous *beam* of light 59 along a row 60 of pixels 28. See column 4, lines 23-28. The Meadows reference therefore teaches an optical touch panel that relies on beams of light, not a lamina of light.

The Graham reference teaches an optical input device that relies exclusively on a grid of light. See for example the following specific teachings in the Graham reference:

- i. the Abstract which describes a *grid of light* created from a waveguides;
- ii. Figure 1 shows a plurality of light beams 106 generated by collimating lenses 116. See column 4, lines 13-16 and 39-41;
- iii. Figure 3 shows an input device 300 that generates *parallel light beams*. See Column 5, lines 25-28;
- iv. Figure 4 shows another input device 400 with waveguides 410 and 412 that generate *horizontal 418 and vertical 420 beams of light*. See column 6, lines 28-64;
- v. Figure 5 shows two waveguides 502 and 504 configured to generate and receive parallel beams of light 508. See column 7, lines 57-67 and column 8 lines 1-9;
- vi. Figures 6A and 6B show cross sections of the waveguides 502/504 of Figure 5. See column 8, lines 11-15;
- vii. Figure 6E shows a flared output waveguide to reduce “diffractive spreading” of the light. See column 9, lines 38-47;
- viii. Figures 10B and 10C show beams of collimated light. See column 13, lines 14-23; and
- ix. Figures 11A and 11B show collimated beams of light 1106. See column 13, lines 28-34.

Similarly, the Francis reference also teaches the use of a grid of light for an input device.

See for example the following specific teachings in Francis:

- i. with reference to Figure 1A, Francis teaches “*X send light beams 15X*” and “*Y send light beams 15Y*”. See column 5, lines 14-20 and column 9, lines 55-67;
- ii. with reference to Figure 1B, Francis teaches the transmission of collimated light beams by X and Y send optics systems 18X and 18Y respectively. See column 5, lines 44-55;
- iii. with reference to Figures 2A and 3, the optics 28 and 38 are provided to enhance the collimation of light beams. See column 6, lines 27-36; and
- iv. with reference to Figures 4 and 5, Francis again teaches the transmission of collimated light beams. See column 8, lines 22-31;

Based on the above, the Meadows, Graham and Francis references are each limited to an input device that relies on a grid of collimated light beams. All these references fail to teach the use of a substantially continuous layer of light (i.e., a lamina of light). Since none of the cited references teach a lamina of light, the claims of the present application are not anticipated.

### **The Double Patenting Rejection**

In the event the Examiner indicates that the subject application contains allowable claims, a terminal disclaimer will be filed.

Applicant believes that all pending claims are allowable and respectfully requests a Notice of Allowance for this application from the Examiner. Should the Examiner believe that a

telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

Respectfully submitted,  
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